

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Mark Levine et al.
Serial No. : 10/699,997
For : DURABLE HIGHLY CONDUCTIVE SYNTHETIC
FABRIC CONSTRUCTION
Filing Date : November 3, 2003
Examiner : Andrew T. Piziali
Group Art Unit : 1794
Confirmation No. : 5362

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January 14, 2009

REVISED APPEAL BRIEF OF APPELLANT UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF- PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to the Notification of Non-Compliant Appeal Brief dated December 30, 2008, setting a one-month period for response, up to and including January 30, 2008, Appellant's attorneys submit this revised Appeal Brief including only the sections that were found to be defective, which is believed to address the Examiner's stated rationale for non-compliance.

This is an Appeal from the Final Rejection by the Examiner dated Final Office Action mailed June 12, 2008, which issued in the above-identified application, finally rejecting claims 1-4, 7-14, 16, 17, 19, 20, 22-24, 27-34, and 36-40, and from the Pre-Appeal Brief

Conference Decision dated November 3, 2008 confirming the rejections. A Notice of Appeal was filed on October 3, 2008. The period for response to Pre-Appeal Brief Conference Decision was set for December 3, 2008 and extendable under 37 CFR 1.136 based upon the mail date of the Decision. Please charge any additional fees required for the Notice of Appeal, or otherwise occasioned by this paper or credit any overpayments to Deposit Account No. 50-0320.

STATUS OF THE CLAIMS

The Application was filed with claims 1-38 on November 3, 2003 and assigned Application Serial No. 10/699,997.

In a first Office Action dated June 17, 2005, the Examiner required an election of a species under 35 U.S.C. §121.

The Examiner also rejected claims 12, 18 and 32 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner also rejected claims 1-4, 7-8, 11-16, 19-22, 27-28 and 31-36 under 35 U.S.C. §102(b) or in the alternative under 35 U.S.C. §103(a) over U.S. Patent No. 6,432,850 to Takagi.

Claims 9-10, 23, 29-30 and 38 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,432, 850 to Takagi as applied to 1-4, 7-8, 11-16, 19-22, 27-28 and 31-36, above and further in view of U.S. Patent No. 4,803,096 to Kuhn et al.

In response to this first Office Action, Appellants filed an Amendment on September 13, 2005 electing (pursuant to a teleconference) species 3, including claims 1-4, 7-24 and 27-38, amending claims 1, 12, 13, 15, 16, 21, 24, 32, 33, 35, 36, adding new claims 39 and 40, and arguing against the claim rejections.

The Examiner then issued a Final Office Action dated October 14, 2005 ("Final Office Action"), in which the Examiner withdrew the rejections under 35 U.S.C. §112 and maintained the remaining rejections in the first Office Action.

In response to this Final Office Action, Appellants filed a Request for Continued Examination with an Amendment on January 11, 2006. An Office Action was mailed March 30, 2006 maintaining the rejections in the Final Office Action.

In response to this first Office Action, Appellants filed an Amendment on June 30, 2006 amending claims 1, and 24 and arguing against the claim rejections.

Appellants held a teleconference with the Examiner, as documented in the Interview Summary dated July 10, 2006, in which claims 1, 15 and 16 were discussed.

The Examiner then issued a Final Office Action dated August 21, 2006, in which the Examiner withdrew the rejections of claims 15 and 35 and rejected claims 1-4, 7-8, 11-14, 16-17, 19-22, 24, 27-28, 31-34, 36-34, and 39-40 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,432,850 to Takagi in view of U.S. Patent No. 5,744,236 to Rohrbach et al. Claims 9-10, 23, 29-30 and 38 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,432, 850 to Takagi in view of U.S. Patent No. 5,744,236 to Rohrbach et al. as applied to 1-4, 7-8, 11-16, 19-22, 27-28 and 31-36, above and further in view of U.S. Patent No. 4,803,096 to Kuhn et al

Appellants held a teleconference with the Examiner, documented in an Interview Summary dated December 4, 2006, in which all claims were discussed.

In response to this Final Office Action, Appellants filed an Amendment on December 21, 2006 amending claims 1 and 24 and canceling claim 21 and arguing against the claim rejections.

The Examiner then issued an Advisory Action dated February 1, 2007 ("Advisory Action"), indicating that the December 21, 2006 response was not entered since the amendment raised new issues that would require further consideration and/or search.

Appellants then filed a Request for Continued Examination on February 16, 2007 appealing the Final rejection.

An Office Action was mailed April 9, 2007 maintaining the rejections in the Final Office Action. Claims 1-4, 7-8, 11-14, 16-17, 19-20, 22, 24, 27, 28, 31-34, 36, 37, 39-40 were rejected over U.S. Patent No. 6,432, 850 to Takagi in view of U.S. Patent No. 5,744,236 to Rohrbach et al. and further in view of U.S. Patent No. 3,842,465 to Sillaots et al. ("Sillaots") under 35 U.S.C. §103(a). Claims 9-10, 23, 29-30 and 38 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,432, 850 to Takagi in view of U.S. Patent No. 5,744,236 to Rohrbach et al. and further in view of U.S. Patent No. 4,803,096 to Kuhn.

In response to this Office Action, Appellants filed an Response on July 9, 2007 arguing against the claim rejections.

The Examiner then issued a Final Office Action dated August 6, 2007 in which the Examiner maintained the remaining rejections in the first Office Action.

In response to this Final Office Action, Appellants filed a Response on October 25, 2007 providing links to websites and arguing against the claim rejections.

The Examiner then issued an Advisory Action dated November 1, 2007, indicating that the October 25, 2007; the evidence was not entered.

In response to this Advisory Action, Appellants filed a Request for Continued Examination on December 6, 2007 appealing the Final rejection and requesting the previously submitted response be considered.

An Office Action was mailed January 10, 2008 maintaining the rejections in the Final Office Action.

In response to this Office Action, Appellants filed an Amendment on April 18, 2008 amending claims 1-4, 7-14, 16-17, 19-20, 22-24, 39-40, providing evidence and arguing against the claim rejections.

The Examiner then issued a Final Office Action dated June 12, 2008 in which the Examiner maintained the remaining rejections in the first Office Action. Claims 1-4, 7-14, 16, 17, 19, 20, 22, 23, and 39 were also rejected under 35 U.S.C. §112, first paragraph, alleging failure to comply with the written description requirement. Claims 1-4, 7-8, 11-14, 16-17, 19-20, 22-24, 27-28, 31-34, 36-37 and 39-40 are were rejected over Takagi in view of Rohrbach and Sillaots or U.S. Patent No.5,830,983 to Alex ("Alex") under 35 U.S.C. 103(a). Claims 9-10, 23, 29-30, and 38 were also rejected under 35 U.S.C. 103(a) over Takagi in view of Rohrbach and Sillaots or Alex and further in view of Kuhn.

In response to this Office Action, Appellants filed an Amendment on September 12, 2008 amending claims 1-4, 7-14, 16-17, 19-20, 22-24, and 39 and arguing against the claim rejections.

The Examiner then issued an Advisory Action dated September 19, 2008, indicating that the September 18, 2008 amendment was not entered.

In response to this Advisory Action, Appellants filed a Notice of Appeal with a Pre-Appeal Brief Request for Review on October 3, 2008 appealing the Final rejection. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on November 11, 2008 maintaining the rejections in the Final Office Action. This Appeal Brief is being filed pursuant to the Notice of Appeal filed on October 3, 2008 and the Pre-Appeal Brief Conference Decision dated November 3, 2008.

Accordingly, the status of the claims may be summarized as follows:

Claims Withdrawn: 5-6, 25-26

Claims allowed: None.

Claims Objected to: None.

Claims Rejected: 1-4, 7-14, 16-17, 19-20, 22-24, and 39

Claims Appealed: 1-4, 7-14, 16-17, 19-20, 22-24, and 39

Claims Canceled: 15, 18, 21, 35

Rejected claims 1-4, 7-14, 16-17, 19-20, 22-24, and 39 are set forth in the Appendix attached hereto. Appellants are appealing the Final rejection of claims 1-4, 7-14, 16-17, 19-20, 22-24, and 39, which constitute all of the currently pending claims in this application.

GROUND FOR REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-4, 7-14, 16, 17, 19, 20, 22, 23, and 39 comply with the written description requirement under 35 U.S.C. §112, first paragraph.

Whether claims 1-4, 7-8, 11-14, 16-17, 19-20, 22, 24, 27-28, 31-34, 36-37 and 39-40 are patentable over U.S. Patent No. 6,432,850 to Takagi ("Takagi") in view of U.S. Patent No. 5,744,236 to Rohrbach et al ("Rohrbach") under 35 U.S.C. §103(a).

Whether claims 1-4, 7-8, 11-14, 16-17, 19-20, 22, 24, 27-28, 31-34, 36-37 and 39-40 are patentable over Takagi in view of Rohrbach and U.S. Patent No. 3,842,485 to Sillaots et al ("Sillaots") or U.S. Patent No. 5,830,983 to Alex ("Alex") under 35 U.S.C. 103(a).

Whether claims 9-10, 23, 29-30 and 38 are patentable under 35 U.S.C. §103(a) over Takagi in view of Rohrbach and further in view of U.S. Patent No. 4,803,096 to Kuhn.

Whether claims 9-10, 23, 29-30, and 38 are patentable under 35 U.S.C. 103(a) over Takagi in view of Rohrbach and Sillaots or Alex and further in view of Kuhn.

ARGUMENTS

I. Claims 1-4, 7-14, 16, 17, 19, 20, 22, 23, and 39 comply with the written description required under 35 U.S.C. §112, first paragraph.

The Examiner rejects claims 1-4, 7-14, 16, 17, 19, 20, 22, 23, and 39 under 35 U.S.C. §112, first paragraph, alleging the claims do not meet the written description requirement. In particular, the Examiner alleges that the term “belt” is not supported. Claims 1 and 24 are independent, and the dependent claims for the reasons given with respect to the independent claims. As regards the rejections under 35 U.S.C. §112, the Examiner has refused to enter the amendment such that the claims recite “fabric” instead of “belt.” The amendment was proffered only as an accommodation to render language of the claims consistent with that of the Specification. The amendment in no way changes the scope of the claim.

Indeed, the Examiner’s rejection is based on a fundamental misreading of the Specification, as he alleges at page 2 that “[t]he specification discloses that the current invention may be drawn to a fabric used in making non-woven textiles and/or spunbonding process or the invention may be drawn to a fabric used in a dry application such as a belting media (page, 4 lines 5-13).” The Specification as cited, however, actually says “the invention is also applicable other industrial fabrics used in **any** “dry” applications where the dissipation of static electricity is required, through **the belting media.**” Emphasis added. As an ordinarily skilled artisan would readily understand, a fabric used in making non-woven textiles and/or spunbonding process is just such a dry application, and is “the belting media.” Moreover, an ordinarily skilled artisan would readily understand that an industrial fabric used in making nonwoven textiles in the airlaid, meltblown, or spunbonding process is in belt form, as the very language of the

Specification indicates. Accordingly, the rejections under section 112 is improper, and should be reversed; Appellants thereby respectfully request such relief of this Honorable Board.

II. Claims 1-4, 7-8, 11-14, 16-17, 19-20, 22, 24, 27-28, 31-34, 36-37 and 39-40 are patentable over Takagi in view of Rohrbach under 35 U.S.C. §103(a).

The Examiner rejects claims 1-4, 7-8, 11-14, 16-17, 19-20, 22, 24, 27-28, 31-34, 36-37 and 39-40 under 35 U.S.C. §103(a) over Takagi in view of Rohrbach. Claims 1 and 24 are independent. Nothing in the cited art of record cures the deficiencies of the art as applied to independent claims 1 and 24. Thus dependent claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 stand or fall with independent claims 1 and 24. Claims 1 and 24 are patentable and non-obvious over Takagi in view of Rohrbach. For the reasons given below, Appellants traverse the rejection.

Claim 1 recites:

An industrial belt used in making nonwoven textiles in the airlaid, meltblown or spunbonding processes comprising a conductive engineered fabric comprising a plurality of polymeric filaments **having one or more C-shaped grooves with a mouth having a width less than the width of a central portion of the groove formed therein,** wherein each filament includes **electrically conductive polymer material incorporated as either a blend or a coating that substantially fills the C-shaped grooves,** said conductive fabric **having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases** and wherein the **one or more C-shaped grooves allow for continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity.** (Emphasis added)

Claim 24 recites:

An industrial belt polymeric filament said polymeric filament having **one or more C-shaped grooves with a mouth having a width less than the width of a central portion of the groove,** wherein said C-shaped grooves are substantially filled **with electrically conductive polymer material mechanically**

locked in place and wherein the one or more C-shaped grooves allow for continued exposure of the conductive polymer to the filament surface as the **monofilament wears so that the filament retains its conductivity**.

Accordingly, claim 1 recites an industrial belt used in making nonwoven textiles by airlaid, meltblown and spunbond processes. Similarly, claim 24 recites an industrial belt polymeric filament. In particular, claim 24 recites “an industrial belt polymeric filament with electrically conductive polymer material mechanically locked in place and wherein the one or more C-shaped grooves allow for continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity.” On the contrary, Takagi relates to garment fabrics for use in dust proof clothes. Such fabrics are not capable of being used as industrial belts merely because they are “garment fabrics” and not industrial belts.

Industrial belts used in making nonwoven textiles by airlaid, meltblown and spunbond processes typically use yarns having a diameter of 0.50mm or more (evidenced by page 3 of Exhibit I), and the linear density of such yarns is 2444 denier or higher (see conversion on page 358 of Exhibit II). The reason why yarns of such large diameter are used in industrial belts is because they are able to withstand the tension and load experienced by industrial belts, for example when used in processes such as airlaid, meltblown and spunbonding process. Industrial belts such as the claimed belt are often subject to high stresses due to applied tension (required to prevent slippage of the conveyor belt on the machine drive rolls), stretching, heavy loads conveyed by the belt, high speed movement combined with side to side movement induced by guiding systems or off-tracking problems, and thermal extremes or thermal shocks. The breaking load of even a 0.50mm diameter industrial yarn is around 10.41daN (see page 202 of Exhibit II), which is equivalent to 23.40lb-force, and an industrial belt formed using such industrial yarns has a breaking strength that measures tens of hundreds of lb-force, and operate

under tensions of 20-50pli (pounds per linear inch) of the belt. Takagi, which uses fibers having a linear density of 200 denier or less, simply **cannot** be used in such environments. In other words, Takagi's fibers are **not** suitable for the above-claimed belt.

For the reasons given above, Takagi's garment fabrics **cannot be used as an industrial belt, especially in an airlaid, meltblown or spunbonding process**. At page 14 of the Final Office Action, the Examiner proffers three rationales as justification for dismissing Appellants' evidence on this point. The Examiner's dismissal is improper, for the reasons that follow.

First the Examiner states that it is not clear that the Exhibit I is drawn to an industrial belt (fabric). The Exhibit explains that the belts disclosed in the Exhibit are for use on Reicofil machines. See pages 1, 4, 6, and 8-10. Appellants also directed the Examiner's attention to www.reicofil.com, where the machines used for its spunbonding and meltblown lines are shown. Exemplary pages printed out from this website are attached as Exhibit III. A cursory review of the website and the machines therein suffice to demonstrate that the Exhibit I refers to an industrial fabric.

Second, the Examiner alleges Exhibits I and II are not sufficient evidence because they are drawn to PET, polyester, and nylon, instead of "the broad range of materials covered by the claim." The Examiner has incorrectly shifted the burden of proof, and more to the point, does not answer the evidence. The material Takagi uses to exemplify its single fibers of 10-220 denier, and preferably 10-100 denier, is polyester, and polyimide (nylon 6, nylon 66, etc.). See Col. 3, line 69 to Col. 4, line 7; Col 4 lines 27-30 to Takagi. **The Exhibits clearly show that Takagi's yarns are utterly inappropriate for the claimed industrial belts. In particular the evidence shows, as the Office Action acknowledges, that polyester and nylon – the very yarns Takagi disclose – must be of far greater strength and have far greater diameter and**

linear density to meet the requirements for the claimed industrial fabrics. The Office Action has not provided any art or evidence that discloses or otherwise suggests that **Takagi's yarn** with a 200 denier or less can serve to produce an industrial belt, whereas Appellants have explained and **provided evidence** that the yarns of the art of record cannot. Thus Appellants' have met any evidentiary burdens it may have had, which remain unrebutted, which demonstrates that Takagi fails to disclose any yarn usable in an industrial fabric.

Lastly, the Examiner asserts that Appellants have not shown that all industrial fabric fibers must have denier greater than 200 denier. Appellants did not argue that all industrial fabric fibers must have a denier of 200 denier or greater, but those used in an industrial fabric used in making nonwoven textiles in the airlaid, meltblown or spunbonding processes must. As Appellants have already amply explained and evidenced, fibers of 200 denier or less cannot withstand the stresses from applied tension, stretching, heavy loads, high speed and side-to-side movement, and thermal extremes and shocks attending the claimed processes.

As to Rohrbach, it is directed to a nonwoven filter media designed to entrap particles without adhesive. *Rohrbach*, Abstract. As recited in independent claims 1 and 24, the claims recite polymeric filaments and the industrial belts constructed therefrom, wherein the polymeric filaments comprise, *inter alia*, "one or more C-shaped grooves with a mouth having a width less than the width of the central portion of the groove" wherein an electrically conductive polymer substantially fills the C-shaped grooves, "and wherein the one or more C-shaped grooves **allow for continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity.**" (Emphasis added). Claim 24 further recites that "**said C-shaped grooves are substantially filled with electrically conductive polymer material mechanically locked in place.**" Substantially filling the C-

shaped grooves with the electrically conductive polymer allows continued exposure of the highly conductive polymer to the surface of the fabric even as the monofilament wears while also shielding and protecting the conductive polymer material. *Instant Application*, page 6, lines 4-12.

On page 4 of the Final Office Action the Examiner asserts that the configuration taught by Rohrbach “inherently” allows for continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity. Applicants respectfully disagree. First, Rohrbach is directed to fibers for use in nonwoven filter media having cavities that entrap powdered activated carbon adsorbent particles. *See Rohrbach*, col. 1, lines 45-63. To form the filter media of Rohrbach, solid particles are aggressively rubbed into the individual fibers. The procedure used to accomplish this dry impregnation is to take the fibers and liberally dust them with the adsorbent powder. The powder particles are rolled into the fiber several times. The powder particles which remain within the cavities of the fibers are surprisingly stable and resistant to physical action. *See id.* at col. 3, lines 38.

Rohrbach further discloses that they do not know the exact reason why the particles remain within the cavities, but they believe it is a keystone type mechanical entrapment effect where the particles seem to engage each other and do not spill from the cavities through the cavity openings. *See id.* at col. 3, lines 37-42. Lastly, and most importantly, Rohrbach states, “[w]e tried impregnating trilobal fiber in which the outer ends or caps of the lobes 26 were removed. Very little carbon particles were retained by such fibers.” *Id.* at col. 3, lines 42-45. Consequently, Applicants assert that if the tops or caps of the T-shaped lobes (indicated in the below drawing, which is an annotated version of Figure 3 from Rohrbach) were to wear, the

keystone type mechanical entrapment effect within the cavities would fail, causing the powder particles to spill or fall-out of the cavities.

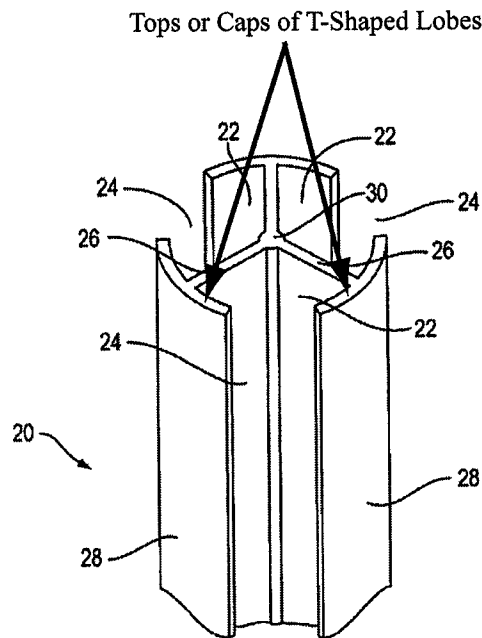


FIG. 3

Therefore, Applicants assert that Rohrbach both fails to disclose and in fact teaches away from a monofilament that allows for continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity. As the Supreme Court said in *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. ___, 82 USPQ2d at 1395 (2007) (citing *U.S. v. Adams*, 383 U.S. 39,40): "[W]hen the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be non-obvious." In addition, a "reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *Id.* at 1350 (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)).

This case presents a textbook example of a reference teaching away from the result sought by the applicant. As discussed above, the claimed invention is advantageous in that the

monofilaments and hence the fabric, remain electrically conductive as the monofilaments wear because of continued exposure of the conductive polymer to the monofilament surface.

Therefore the skilled artisan confronted with the problem articulated by the Applicant, namely the need for a highly durable electrically conductive industrial belt, would clearly have been led away from the approach taken by Applicants after having read the Rohrbach reference because, as previously discussed, as the Rohrbach fiber wears, the powder particles entrapped within the cavities would spill out, resulting in a fiber that would not have the same characteristics and properties as a fiber still containing the powder particles.

Consequently, because Rohrbach teaches away from the instant invention and because all of the rejections are based on Rohrbach in combination with Takagi, the § 103 rejections must fail as a matter of law.

Finally, both Takagi and Rohrbach **do not** even remotely relate to industrial belts. Thus neither the Takagi and Rohrbach are **analogous art**, and for this reason alone, the rejection of claim 1 under §103(a) over Takagi in view of Rohrbach must be withdrawn. Following the decision by the Supreme Court of the United States in *KSR International v. Teleflex, Inc.*, 127 S.Ct. 1727, 167 L.Ed2d 705, 82 U.S.P.Q.2d 1365 (2007), the analogous art requirement remains an important part of the primary analysis under *Graham v John Deere Co. of Kansas City*, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 U.S.P.Q. 459 (1966). As recently re-stated by the Board of Patent Appeals and Interferences:

The analogous-art test requires the Board to show that a reference is either in the field of the applicant's endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection.

Ex Parte Bartly et al., 2008 WL 275524 (Bd.Pat.App. & Interf. 2008) (Appeal No. 2007-2583).

The Board has further explained that:

In view of KSR's holding that "any problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the matter claimed" [citation omitted] it is clear that the **second part** of the analogous-art test as stated [above] must be expanded to require a determination of **whether the reference**, even though it may be in a different field from that of the inventor's endeavor, is one which, because of the matter with which it deals, **logically** would have commended itself to an artisan's (not necessarily the inventor's) attention in considering **any need or problem** known in the field of endeavor.

Id., at 2008 WL 275525 (emphasis added); and *Ex Parte Morrow*, 2008 WL 1997942 (Appeal No. 2007-3972, which further states that "although under *KSR* it is not always necessary to identify a known need or problem as a motivation for modifying or combining the prior art, it is nevertheless **always necessary** that the prior art relied on to prove obviousness be **analogous**." (Emphasis added).

See also, *Ex Parte Kurt*, 2007 WL 4470067 (Bd. Pat. App. & Interf., 2007) (Appeal No. 2007-4172) in which an obviousness rejection was reversed because the cited prior art, directed to extreme UV radiation optical elements, was found to be non-analogous to the claims at issue, which were directed to photolithographic projection. As stated by the Board in *Ex Parte Kurt*, "in the present case, even one looking outside Appellant's field of endeavor would not look to Morshita's Mo-Cr metal mold material to cure the deficiencies of Shiraishi's lithographic optical system" (*Id.*, 2007 WL at 4470069).

In the present case, the claim 1 recites: "[a]n **industrial belt used in making nonwoven textiles in the airlaid, meltblown or spunbonding processes** comprising a conductive engineered fabric **having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases.**" Claim 24 recites "C-shaped grooves are substantially filled with **electrically conductive polymer material mechanically locked in**

place ...[where] the monofilament wears so that the filament retains its conductivity.”

There is no need or problem known in the field of such papermaking machines that requires making the industrial belts dustproof, which is the reason for Takegi’s antistatic clothes.

Moreover, the claim expressly recites that the belt be resistant to dents and creases; whereas denting and creasing are necessary and desirable properties in clothing (e.g., to allow mobility). Quite simply, and ordinarily skilled artisan would not look to garment fabrics to solve problems of industrial belts.

Yet even assuming *arguendo* that an artisan would look to Takegi, an ordinarily skilled artisan would not look to Rohrbach’s filtering fabric designed to entrap particles in order to cure Takegi’s deficiencies. Indeed, given that Takegi teaches making clothes dustproof, whereas Rohrbach teaches designing filters to entrap particles without adhesive (see *Rohrbach*, abstract, column 1, lines 45-50), an ordinarily skilled artisan would not combine the two to create either a filter that repels dust or dust-free clothing that traps particles. It follows that neither reference combines or logically commends itself to an artisans attention to disclose, much less render obvious, “[a]n industrial belt used in making nonwoven textiles in the airlaid, meltblown or spunbonding processes comprising a conductive engineered fabric **having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases,**” as claimed in claim 1 or a monofilament with “C-shaped grooves are substantially filled with **electrically conductive polymer material mechanically locked in place ...[where] the monofilament wears so that the filament retains its conductivity**” as claimed in claim 24.

Applicants submit therefore, that even under the post-*KSR* analysis of analogous-art, both the Takegi and Rohrbach references fail to qualify as analogous art with each other, much less with the presently claimed invention. Specifically, Takagi and Rohrbach are directed to a

garment and hollow fibers for use in nonwoven filter media respectively, and **not** to an industrial belt as recited in the above-recited claims. Applicants thus respectfully submit that the ground of rejection in the Office Action over these references must be withdrawn.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 1 and 24 are patentable over the relied upon portions of Takagi and Rohrbach, considered either alone or in combination, and are therefore allowable. Claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 each depend from independent claims 1 and 24, discussed above, and are therefore patentable for at least the same reasons. Therefore, Appellants respectfully request reversal of the § 103 rejections in the Office Action by this Honorable Board.

III. Claims 1-4, 7-8, 11-14, 16-17, 19-20, 22-24, 27-28, 31-34, 36-37 and 39-40 are patentable over Takagi in view of Rohrbach and Sillaots or Alex under 35 U.S.C. 103(a).

Claims 1-4, 7-8, 11-14, 16-17, 19-20, 22-24, 27-28, 31-34, 36-37 and 39-40 are rejected under 35 U.S.C. 103 over Takagi in view of Rohrbach and Sillaots or Alex). Claims 1 and 24, the independent claims, are patentable and non-obvious over Takagi in view of Rohrbach and further in view of Sillaots or Alex. As regards claims 1 and 24, Appellants have shown the deficiencies of Takagi in view of Rohrbach above, and Sillaots fails to cure these deficiencies.

Sillaots relates to an apparatus for forming a fibrous lap from webs, including a conveyor to deliver the webs, and a mechanism to lay the webs onto a conveyer withdrawing the ready lap. From Sillaots' disclosure it is clear that it is directed to an apparatus for use in a process such as carding, specifically as **a cross-lapping machine**. A person of ordinary skill in the art well recognizes the fact that a cross-lapping machine is not used in airlaid, meltblown or spunbonding processes recited in the claim 1. As regards these processes, there was an immediate need for an

engineered fabric that could dissipate static charge that is developed between the fibers of the fibrous web when they are being “formed” on the industrial belt. Sillaots’ belt merely transports a nonwoven web in a certain fashion, after the web is already formed. There is no need for “static dissipation” in Sillaots. Thus an ordinarily skilled artisan would not turn to the disclosures in Sillaots for solutions relating to airlaid, meltblown or spunbonding processes, including “[a]n industrial belt used in making nonwoven textiles in the airlaid, meltblown or spunbonding processes comprising a conductive engineered fabric **having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases,**” as claimed in claim 1 or a monofilament with “C-shaped grooves are substantially filled with **electrically conductive polymer material mechanically locked in place** ...[where] **the monofilament wears so that the filament retains its conductivity**” as claimed in claim 24.

Moreover, it is well known that belts used in airlaid, meltblown or spunbonding processes **must be permeable** to function. On page 15 of the Office Action, the Examiner contends that the Applicants have failed to show, or attempt to show, that all fabrics used in said processes must be permeable to function properly.

Firstly, prior art coated designs have suffered from a lack of durability and also interfere with the permeability of open mesh structures. See *Instant Application*, paragraph [0004]. Secondly, industrial belts used in making nonwoven textiles by airlaid, meltblown and spunbond processes have to have air permeability (See page 3 of Exhibit I) or else the belt is rendered useless due to inoperability in a nonwoven forming environment.

The Examiner cited the *KSR vs. Teleflex* to suggest that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual

application is beyond his or her skill. However, the claimed industrial belt and Sillaots' conveyor belt are not similar insofar as conveyer belts used on cross-lapping machines are impermeable and coated, while the claimed belt is not. Again, belts used in airlaid, meltblown or spunbonding processes **must be permeable** to function.

The Examiner dismisses Appellants' arguments showing that Sillaots teaches a cross-lapping machine, which (a) is not used in airlaid, meltblown or spunbonding process and (b) teaches impermeable coated belts. At page 15 of the Final Office Action, the Examiner repeats that "it is known in the nonwoven making belt art to use antistatic plastics." Appellants' arguments of record directly address this allegation: Sillaots does not teach the claimed anti-static properties and configuration, as there is no need for static dissipation between fibers of the web on a belt and the belt itself.

Applicants evidence the foregoing arguments using the following websites, which clearly show the purpose or use of a cross-lapping machine in the industry.

www.habasit.com for types of belts use in this industry and their differences (Exemplary pages attached as Exhibit IV);

www.dilo.de for devices used in cross-lapping and diagrams depicting cross-lapping machines (Exemplary pages attached as Exhibit V), and

www.ramcon-fiberlok.com for a video showing a cross-lapper belt in motion (Exemplary pages attached as Exhibit VI).

Applicants submit that conveyor belts used on such devices are **impermeable and coated**. However, it is well known that belts used in airlaid, meltblown or spunbonding processes **must be permeable**, as discussed above. Accordingly, one skilled in the art would not look to the belt of Sillaots for applications involving the present invention.

As explained above, industrial fabrics belts used in making nonwoven textiles by airlaid meltblown, and spunbond processes must have, *inter alia*, air permeability (see page 3 of Exhibit 1), or else the belt would not function for its intended use. The Office Action disagrees at page 15 of the Final Office Action, alleging that “applicant asserts the claimed industrial belt...must be impermeable to liquids,” and that the “current specification does not even mention a belt used in a wet application,” and that “the specification only mentions a belt used in a dry application.” The Examiner wholly misinterprets the Appellants’ arguments. **Appellants make no reference to wet processes or liquid permeability whatsoever.** As Appellants stated at, *inter alia*, page 13 of the April response, **“industrial belts used in making nonwoven textiles by airlaid, meltblown and spunbond processes have to have air permeability (See page 3 of Exhibit I) or else the belt is rendered useless due to inoperability in a nonwoven forming environment.”** Emphasis added. As an ordinarily skilled artisan understands, industrial belts used in making airlaid, meltblown and spunbond processes must be **permeable to air**. Accordingly, and as Applicants have amply evidenced, the recitation of a fabric for “making nonwoven textiles in the airlaid, meltblown or spunbonding processes” clearly conveys a structural characteristic such as air permeability, which is necessary for such a fabric, to an ordinarily skilled artisan. Hence the recitation cannot be dismissed as an intended use in view of the structure that the recitation conveys to an ordinarily skilled artisan. See M.P.E.P. §2173.05(g).

Finally, merely because Sillaots discloses that the belt used on the cross-lapping machine requires having physical and mechanical properties such as use of antistatic plastic to make the belt, one of ordinary skill in the art would not be motivated to modify Takagi, which relates to garment fabrics, nor Rohrbach, which relates to a filter. For the reasons amply laid out above,

these references, among other things, are wholly non-analogous to each other and to industrial belts.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 1 and 24 patentably distinguish over Takagi, Rohrbach and Silloats, considered either alone or in combination, because the relied upon portions of the cited references fail to teach each and every limitation of claims 1 and 24 or evidence any reason, either in the references or in the knowledge of an ordinarily skilled artisan, to modify or combine the references to practice the claimed invention. Alex does nothing to cure the deficiencies of Takagi, Rohrbach or Silloats as it simply discloses antistatic power transmission belts and conveyor belts. Claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 each depend from independent claims 1 and 24, discussed above, and are therefore patentable for at least the same reasons. Therefore, the § 103(a) rejections in the Office Action should be reversed and such relief is respectfully requested of this Honorable Board.

IV. Claims 9-10, 23, 29-30 and 38 are patentable over Takagi in view of Rohrbach and further in view of U.S. Patent No. 4,803,096 to Kuhn under 35 U.S.C. §103(a).

Claims 9-10, 23, 29-30 and 38 are rejected under 35 U.S.C. §103(a) over Takagi in view of Rohrbach and further in view of U.S. Patent No. 4,803,096 to Kuhn. Claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 each depend from independent claims 1 and 24, discussed above, and are therefore patentable for at least the same reasons. Nothing in the cited art of record cures the deficiencies of the art as applied to independent claims 1 and 24. Thus dependent claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 stand or fall with independent claims 1 and 24. Appellants thereby respectfully request reversal of the rejections and allowance of the claims by this Honorable Board.

V. Claims 9-10, 23, 29-30, and 38 are patentable over Takagi in view of Rohrbach and Sillaots or Alex and further in view of Kuhn under 35 U.S.C. 103(a).

Claims 9-10, 23, 29-30, and 38 are rejected under 35 U.S.C. 103(a) over Takagi in view of Rohrbach and Sillaots or Alex and further in view of Kuhn. Claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 each depend from independent claims 1 and 24, discussed above, and are therefore patentable for at least the same reasons. Nothing in the cited art of record cures the deficiencies of the art as applied to independent claims 1 and 24. Thus dependent claims 2-4, 7-8, 11-14, 16-17, 19-20, 22-23, 27-28, 31-34, 36-37 and 39-40 stand or fall with independent claims 1 and 24. Appellants thereby respectfully request reversal of the rejections and allowance of the claims by this Honorable Board.

CONCLUSION

For the reasons discussed above, claims 1-21 are patentable. It is, therefore, respectfully submitted that the Examiner erred in rejecting claims 1-21, and Appellants request a reversal of these rejections by this Honorable Board. As a result, the allowance of this application should be mandated.

Respectfully submitted,

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